Resource Guide 2011

ATTO

ATTO Technology, Inc.

ATTO Technology, Inc.

Corporate Overview and Product Portfolio

For over 20 years, ATTO Technology has embraced a simple product mission: consistently meet the industry demands for better storage connectivity and infrastructure solutions through leading-edge technology. Our products are based on centralized core architectures of hardware and software, ensuring that technology and features fit seamlessly throughout our product lines. ATTO is the underlying component that drives all leading storage suppliers including EMC®, NetApp®, HP® and IBM® enterprise-class storage.

ATTO is internationally recognized as an innovator in the ever-changing computer world, and we continue to be on the forefront of technologies that retain the qualities of the ATTO brand: user friendly, high performance and customer focused. With membership in organizations including the SCSI Trade Association and Fibre Channel Industry Association, ATTO strives to not only provide the highest quality connectivity solutions, but to also provide leadership in industry innovation and commentary.

Headquartered in Amherst, New York, ATTO Technology designs, tests and assembles its products under one roof. This gives a variety of specialized development teams access to one another, ensuring that each product ATTO provides is of the highest quality for both original equipment manufacturers and end users alike. We solve the most intensive storage connectivity problems in media, entertainment and data center industries.

ATTO products are sold into over 60 countries worldwide to best serve our customers. Our international presence makes us the leader in high-performance storage connectivity. ATTO is involved in national and international trade shows as a host and is also displayed in a variety of industry-leading storage solution demonstrations.

Storage connectivity's ongoing advancements require increasing performance levels and solution options. ATTO products are engineered to optimally perform in the most demanding computer environments. Whether you're an OEM or system integrator looking for a tailored product, a large organization or single-user with high-capacity or specific storage connectivity needs, ATTO has a solution that will work seamlessly to store, manage and deliver your data.

Made in USA

"ATTO is focused on understanding our customers' workflows and addressing their needs with high-performance, easy to use storage solutions."

-Timothy J. Klein, President and CEO, ATTO Technology, Inc.

Host & RAID Adapters

Celerity 8Gb/s and 4Gb/s Fibre Channel HBAs, ExpressSAS 6Gb/s and 3Gb/s SAS/SATA HBAs and RAID Adapters and ExpressPCI SCSI HBAs provide faster and more efficient data transfers

Converged Network Adapters & Network Interface Cards

FastFrame™ 10GbE Converged Network Adapters and Network Interface Cards provide flexible and scalable unified LAN and SAN storage connectivity

RAID Storage Controllers

FastStream™ Storage Controllers are engineered for real-time applications which require managed latency for high-performance workflows

Bridges

ATTO offers the widest selection of Fibre Channel and iSCSI bridges in the industry to meet a variety of performance needs

Switches

FibreConnect™ 8Gb/s Fibre Channel switches provide high-performance, scalable connectivity with enterprise-level features for small to mid-range SANs

Software

ATTO creates software and downloadable tools that help to maximize the productivity of a number of ATTO products

Cables and Accessories

ATTO recommends using our high quality cables to maximize product performance

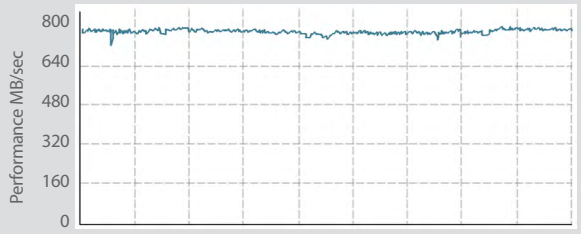
Proprietary Technologies

ATTO Product Differentiators

Advanced Data Streaming (ADS™) Technology

All ATTO HBAs and RAID Controllers come with Advanced Data Streaming (ADS™), a proprietary technology that manages latency by providing controlled acceleration for smooth data streaming to maintain consistent high performance..

ATTO Products with ADS™ Technology



Data transfer performance is smooth and reliable

Competitors Product

Disrupted transfer with peaks and drops

Transfer rate dips below optimal performance levels

ExpressNAV™ Storage Manager

Exclusive to ATTO's FastStream™ RAID Controllers, ExpressNAV allows users to check diagnostics as well as manage and maintain storage from a single browser-based GUI.

*i*ntelligent Bridging Architecture™

*i*ntelligent Bridging Architecture technology combines hardware with software data engines to effectively transfer data from multiple combinations of protocols, custom applications, and specification requirements of user configurations.

"Our qualification of ATTO's Celerity Fibre Channel HBAs and MultiPath Director™ allows us to deliver a SAN connectivity solution to Mac OS X customers that keeps storage media and digital content available in real time for multiple users."

– Deirdre Wassell, Director, EMC E-Lab Marketing

Smooth Data Optimization™

Config Tool™

MultiPath Director™

ExpressNAV™ Storage Manager

Advanced Data Streaming (ADS™)

*i*ntelligent Bridging Architecture™

Drive Map Director™

DriveAssure™ Technology

Virtual Device Manager

SpeedWrite™

Signal Integrity

DVRAID™

CacheAssure™ Technology

QuickNAV™

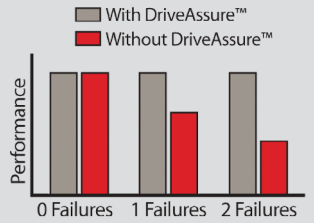
Virtual Drive Response (VDR)

DriveAssure™ Technology

DriveAssure™ provides bounded latency through proprietary algorithms and user controls to prevent premature drive failures and slow downs in an effort to maximize system uptime. This technology is standard on all ATTO RAID adapters and storage controllers.

- Guaranteed latency response from RAID groups
- Media scrubbing during drive initialization
- Manual and scheduled media scans with parity verification
- On-the-fly media error handling
- Rebuilds continue when an error occurs
- Data recovery mode

Drive Failure Rate



SpeedWrite™

Standard on ATTO Bridges, SpeedWrite efficiently queues outstanding write commands to enhance the throughput of the bridge.

CacheAssure™ Technology

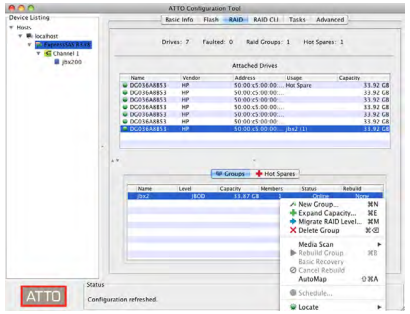
CacheAssure™ uses supercap technology instead of batteries to protect cached data. Save time and money by eliminating the need to install, monitor, maintain, dispose, and replace batteries.

Management Tools

Config Tool™ & ExpressNAV™ Storage Manager

Config Tool™

ATTO Config Tool helps customize the settings of your ATTO host bus adapter to maximize the performance of your storage connection. Standard on all ATTO HBAs, ATTO Configuration Tool is available for Mac®, Windows®, and Linux operating systems. While the factory settings on your host adapter provide excellent performance for a wide range of applications, some specialized applications may benefit from adjustment of the adapter settings to tune the adapter for a specific performance range.

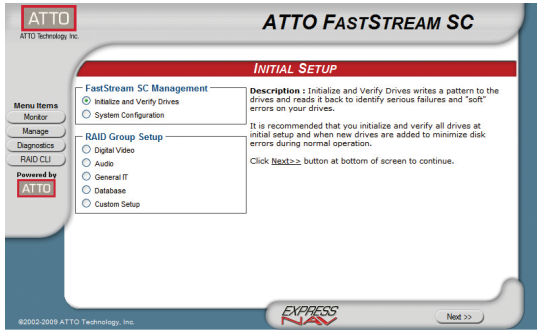


- Custom utility settings to optimize performance
- Available on Mac, Windows and Linux OS
- Advanced troubleshooting and monitoring

ExpressNAV™

The ExpressNAV remote management interface helps get any FastStream controller up and running in as little as five minutes without specialized IT personnel.

ExpressNAV helps users spend less time managing storage and more time accessing data. Storage environments can haphazardly build up with disparate storage groups making it necessary to tend to several management interfaces. FastStream Controllers equipped with ExpressNAV help manage complete storage infrastructures via a single product.


ATTO
ATTO FastStream SC
Initial Setup
FastStream SC Management
Initialize and Verify Drives
System Configuration
RAID Group Setup
Digital Video
Audio
General IT
Database
Custom Setup
Menu Items
Monitor
Manage
Diagnostics
RAID CLI
Powered by ATTO
Description : Initialize and Verify Drives writes a pattern to the drives and reads it back to identify serious failures and "soft" errors on your drives.
It is recommended that you initialize and verify all drives at initial setup and when new drives are added to minimize disk errors during normal operation.
Click Next>> button at bottom of screen to continue.
EXPRESS NAV
Next >>

- One click setup wizards
- Custom setup option for advanced performance tuning
- Email notification for monitoring

"ATTO ExpressPCI SCSI UL5D LP HBA complements our HP StorageWorks MSL family of tape libraries, and allows customers to effectively manage their growing needs for flexible and scalable storage environments."

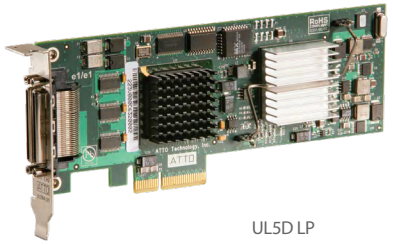
– Jeff Kato, Director Tape Automation, HP

Ultra320 SCSI HBAs

ExpressPCI Host Bus Adapters

ExpressPCI SCSI Host Bus Adapters offer high-performance connectivity to Direct Attached Storage configurations. With the combination of reliability, speed and performance, ATTO SCSI host bus adapters have been the trusted choice of professionals worldwide for over 15 years.

- Optimized for extremely low latency and high-bandwidth transfers for both data-intensive and high-transaction rate applications



UL5D LP

Supports:
- Windows®, Linux, Mac® and Novell Netware
- 30 SCSI IDs
- Certified with industry leading platforms and applications

Includes:
- Advanced Data Streaming (ADS™) Technology
- ATTO Config Tool for customized performance settings

Complementary Products:
- ATTO Express Power Center RAID software
- ATTO premium cables

ATTO ExpressPCI Host Bus Adapters

Product Features	UL5D	UL5D LP	UL4D
Part Number	EPCI-UL5D-ORO	EPCI-UL5D-LOO	EPCI-UL4D-ORO
SCSI Channels (Ext/Int)	2/2	2/0	2/2
SCSI Protocol	Ultra320	Ultra320	Ultra320
Max. Transfer Rate	640MB/s	640MB/s	640MB/s
Bus Type	PCIe x4	PCIe x4	PCI-X 64-bit, 133MHz
Auto Negotiation	Ultra320, Ultra160, Ultra2, Ultra/WIDE	Ultra320, Ultra160, Ultra2, Ultra/WIDE	Ultra320, Ultra160, Ultra2, Ultra/WIDE
Max. Cable Length	12m	12m	12m
Low-Profile Form Factor	—	Yes	—
Developer's Kit* (Target Mode)	Yes	Yes	Yes
Warranty	3 year	3 year	3 year

*Available for qualified OEM sales only. Please contact your ATTO representative.

Compatible Software Available - See Page 24.
Compatible Cables & Accessories Available - See Page 26.

8Gb & 4Gb Fibre Channel HBAs

Celerity Host Bus Adapters

Celerity 8Gb/s and 4Gb/s Fibre Channel Host Bus Adapters deliver a robust and scalable storage connectivity solution. From broadcast facilities to data centers, Celerity Fibre Channel HBAs are used worldwide in a range of applications. This highly integrated family of adapters is designed to optimize data transfer using a combination of features that enhance the data delivery process.

- Upgrading to Celerity 8Gb/s HBAs will double performance while preserving existing 4Gb/s storage infrastructure investment
- Optimized for extremely low latency and high-bandwidth transfers for both data-intensive and high-transaction rate applications
- Enterprise storage ready - compatible with EMC®, HP®, IBM® and NetApp® storage
- MultiPath Director™, available with Celerity HBAs, is the industry's only solution to allow workstations and servers access to high-availability, high-performance, enterprise-class storage for shared workflows
- Complete SAN connectivity solution when combined with ATTO FibreConnect™ 8Gb/s Fibre Channel Switch
- Uses 40% less power than competitive HBAs, reducing overall electric and cooling costs
- EMC E-Lab Tested

FC-84EN

Supports:
- Windows®, Linux, Mac®, VMware® (4Gb ES/XS models support Novell NetWare, Solaris, and FreeBSD)
- Arbitrated loop, point-to-point and direct fabric/switch attach
- Certified with industry leading platforms and applications

Includes:
- Advanced Data Streaming (ADS™) Technology
- Pluggable optical LC SFP (4Gb) or SFP+ (8Gb)
- ATTO Config Tool for customized performance settings

Complementary Products:
- ATTO Express Power Center RAID software
- ATTO FibreConnect™ Fibre Channel switches
- ATTO premium cables

"We have standardized with ATTO, so when we moved from 4Gb to 8Gb, the decision was easy. Our artists, directors and producers don't have to think about our systems not working... The higher bandwidth enables us to work with dual streams for stereoscopic playback and editing"

-Terry Dale, VP of Operations, Starz Animation Toronto

ATTO Celerity Host Bus Adapters

Product Features	84EN	82EN	81EN
Part Number	CTFC-84EN-000	CTFC-82EN-000	CTFC-81EN-000
Fibre Channel Ports	4	2	1
Max. Data Rate	8Gb/s	8Gb/s	8Gb/s
Max. Transfer Rate (Full Duplex) (Half Duplex)	6.4GB/s 3.2GB/s	3.2GB/s 1.6GB/s	1.6GB/s 800MB/s
Bus Type	PCIe 2.0 x8	PCIe 2.0 x8	PCIe 2.0 x8
Auto Negotiation	8Gb, 4Gb, 2Gb	8Gb, 4Gb, 2Gb	8Gb, 4Gb, 2Gb
Optical Interface	SFP+LC	SFP+LC	SFP+LC
Max. Cable Length	300m - 2Gb 150m - 4Gb 50m - 8Gb	300m - 2Gb 150m - 4Gb 50m - 8Gb	300m - 2Gb 150m - 4Gb 50m - 8Gb
Low-Profile Form Factor	—	Yes	Yes
Developer's Kit* (Target Mode API)	Yes	Yes	Yes
Warranty	3 year	3 year	3 year

Product Features	44ES	42ES	41ES	41XS
Part Number	CTFC-44ES-ORO	CTFC-42ES-ORO	CTFC-41ES-ORO	CTFC-41XS-ORO
Fibre Channel Ports	4	2	1	1
Max. Data Rate	4Gb/s	4Gb/s	4Gb/s	4Gb/s
Max. Transfer Rate (Full Duplex) (Half Duplex)	3.2GB/s 1.6GB/s	1.6GB/s 800MB/s	800MB/s 400MB/s	800MB/s 400MB/s
Bus Type	PCIe x8	PCIe x4	PCIe x4	PCI-X 64-Bit, 133 MHz
Auto Negotiation	4Gb, 2Gb, 1Gb	4Gb, 2Gb, 1Gb	4Gb, 2Gb, 1Gb	4Gb, 2Gb, 1Gb
Optical Interface	SFP LC	SFP LC	SFP LC	SFP LC
Max. Cable Length	300m - 2Gb 150m - 4Gb	300m - 2Gb 150m - 4Gb	300m - 2Gb 150m - 4Gb	300m - 2Gb 150m - 4Gb
Low-Profile Form Factor	—	Yes	Yes	Yes
Developer's Kit* (Target Mode API)	Yes	Yes	Yes	Yes
Warranty	3 year	3 year	3 year	3 year

*Available for qualified OEM sales only. Please contact your ATTO representative.

Compatible Fibre Channel Switch Available - See Page 22.
Compatible Software Available - See Page 24.
Compatible Cables & Accessories Available - See Page 26.

MultiPath Director™

MulitPath Director™ is a proprietary driver available on ATTO's Fibre Channel host bus adapters that enables Mac OS® X, Windows® 7, Vista and XP workstation hosts to connect directly to enterprise storage. MultiPath Director, when paired with enterprise-class storage systems, provides a completely redundant, high-availability, high-performance storage solution for workstation and server applications.

6Gb & 3Gb SAS/SATA HBAs

ExpressSAS Host Bus Adapters

ExpressSAS Host Bus Adapters leverage the performance and scalability enhancements of Serial Attached SCSI (SAS) technology to deliver the fastest available connection to SAS/SATA storage. ATTO offers a reliable Direct Attached Storage connectivity solution that is interoperable with a wide range of internal and external disk and tape products.

- Optimized for extremely low latency and high-bandwidth transfers for both data-intensive and high-transaction rate applications
- Compatibility with all major SAS, SATA, SSD, disk and tape drives
- Uses 40% less power than competitive HBAs, reducing overall electric and cooling costs

H644

H6F0

Supports:
- Windows®, Linux, Mac® and VMware®
- SAS 2.0 (6Gb only), SAS, SATA II, SATA
- Certified with industry leading platforms and applications

Includes:
- Advanced Data Streaming (ADS™) Technology
- ATTO Config Tool for customized performance settings

Complementary Products:
- ATTO Express Power Center RAID software
- ATTO premium cables

"Now we are able to edit as many cameras as we need in 3D, in real-time -- which is a tremendous time and cost savings ... this new workflow is amazing and continues to open up doors to new opportunities."

-George Bellias, Jade Productions

ATTO ExpressSAS Host Bus Adapters

Product Features	H6F0	H60F	H680	H608
Part Number	ESAS-H6F0-000	ESAS-H60F-000	ESAS-H680-000	ESAS-H608-000
SAS/SATA Ports	16	16	8	8
Port Config. (Ext/Int)	16/0	0/16	8/0	0/8
Max. Data Rate	6Gb/s	6Gb/s	6Gb/s	6Gb/s
Max. Transfer Rate (Full Duplex) (Half Duplex)	19.2GB/s 9.6GB/s	19.2GB/s 9.6GB/s	9.6GB/s 4.8GB/s	9.6GB/s 4.8GB/s
Bus Type	PCIe 2.0 x8	PCIe 2.0 x8	PCIe 2.0 x8	PCIe 2.0 x8
Auto Negotiation	SAS 2.0, SAS, SATA II, SATA	SAS 2.0, SAS, SATA II, SATA	SAS 2.0, SAS, SATA II, SATA	SAS 2.0, SAS, SATA II, SATA
Connector Type	4 Mini SAS (x4) SFF 8088 External	4 Mini SAS (x4) SFF 8087 Internal	2 Mini SAS (x4) SFF 8088 External	2 Mini SAS (x4) SFF 8087 Internal
Max. Cable Length SAS/SATA	10m/1m	10m/1m	10m/1m	10m/1m
Low-Profile Form Factor	—	Yes	Yes	Yes
Developer's Kit* (Target Mode)	Yes	Yes	Yes	Yes
End Devices Supported	512	512	256	256
Warranty	3 year	3 year	3 year	3 year

Product Features	H644	H30F	H380
Part Number	ESAS-H644-000	ESAS-H30F-000	ESAS-H380-000
SAS/SATA Ports	8	16	8
Port Config. (Ext/Int)	4/4	0/16	8/0
Max. Data Rate	6Gb/s	3Gb/s	3Gb/s
Max. Transfer Rate (Full Duplex) (Half Duplex)	9.6GB/s 4.8GB/s	4.8GB/s 2.4GB/s	4.8GB/s 2.4GB/s
Bus Type	PCIe 2.0 x8	PCIe x8	PCIe x8
Auto Negotiation	SAS 2.0, SAS, SATA II, SATA	SAS, SATA II, SATA	SAS, SATA II, SATA
Connector Type	1 Mini SAS (x4) SFF 8088 External 1 Mini SAS (x4) SFF 8087 Internal	4 Mini SAS (x4) SFF 8087 Internal	2 Mini SAS (x4) SFF 8088 External
Max. Cable Length SAS/SATA	10m/1m	8m/1m	8m/1m
Low-Profile Form Factor	Yes	Yes	Yes
Developer's Kit* (Target Mode)	Yes	—	—
End Devices Supported	256	256	256
Warranty	3 year	3 year	3 year

*Available for qualified OEM sales only. Please contact your ATTO representative.

Compatible Software Available - See Page 24.
Compatible Cables Available - See Page 26.

6Gb & 3Gb SAS/SATA RAID Adapters

ExpressSAS RAID Adapters

ATTO's ExpressSAS 6Gb/s and 3Gb/s SAS/SATA RAID Adapters provide high performance data protection to direct attached SAS and SATA JBOD storage. With a wide variety of port configurations and RAID levels, these adapters offer flexibility for every range of application. ATTO's time tested RAID stack offers the confidence of high-performance data integrity.

- Upgrading to 6Gb/s will double performance while preserving existing 3Gb/s storage infrastructure investment
- Optimized for extremely low latency and high-bandwidth transfers for both data-intensive and high-transaction rate applications
- Tunable rebuilds allow full application performance for continuous access to storage during degraded or rebuild modes
- Uses 40% less power than competitive adapters, reducing overall electric and cooling costs

R680 with CacheAssure™ Technology

Supports:
- Windows®, Linux, Mac®
- RAID levels 0, 1, 4, 5, 6, 10, 40*, 50*, 60*, JBOD and DVRAID™ (* requires Express Power Center Software)
- Certified with industry leading platforms and applications

Includes:
- Advanced Data Streaming (ADS™) Technology
- DriveAssure™ Technology
- CacheAssure™ Technology (Optional)
- ATTO Config Tool for customized performance settings

Complementary Products:
- CacheAssure™ Technology
- ATTO Express Power Center RAID software
- ATTO premium cables

"...Very smooth and easy to setup ... we got the highest speed possible for both uncompressed and compressed HD editing."

-Walter Biscardi, Biscardi Creative Media Services

ATTO ExpressSAS RAID Adapters

Product Features	R60F	R680	R608	R644
Part Number	ESAS-R60F-000	ESAS-R680-000	ESAS-R608-000	ESAS-R644-000
Part Number w/ CacheAssure™	ESAS-R60F-C00	ESAS-R680-C00	ESAS-R608-C00	ESAS-R644-C00
SAS/SATA Ports	16	8	8	8
Port Config. (Ext/Int)	0/16	8/0	0/8	4/4
Max. Data Rate	6Gb/s	6Gb/s	6Gb/s	6Gb/s
Max. Transfer Rate (Full Duplex) (Half Duplex)	9.6GB/s 4.8GB/s	9.6GB/s 4.8GB/s	9.6GB/s 4.8GB/s	9.6GB/s 4.8GB/s
Bus Type	PCIe 2.0 x8	PCIe 2.0 x8	PCIe 2.0 x8	PCIe 2.0 x8
Auto Negotiation	SAS 2.0, SAS, SATA II, SATA	SAS 2.0, SAS, SATA II, SATA	SAS 2.0, SAS, SATA II, SATA	SAS 2.0, SAS, SATA II, SATA
Connector Type	4 mini SAS (x4) SFF 8087 Internal	2 mini SAS (x4) SFF 8088 External	2 mini SAS (x4) SFF 8087 Internal	1 mini SAS (x4) SFF 8088 External, 1 mini SAS (x4) SFF 8087 Internal
Max. Cable Length SAS/SATA	10m/1m	10m/1m	10m/1m	10m/1m
Low-Profile Form Factor	Yes	Yes	Yes	Yes
End Devices Supported	128	128	128	128
Memory (ECC)	512MB	512MB	512MB	512MB
Warranty	3 year	3 year	3 year	3 year

Product Features	R30F	R380	R348
Part Number	ESAS-R30F-000	ESAS-R380-000	ESAS-R348-000
SAS/SATA Ports	16	8	8
Port Config. (Ext/Int)	0/16	8/0	User Selectable 4/4 or 0/8
Max. Data Rate	3Gb/s	3Gb/s	3Gb/s
Max. Transfer Rate (Full Duplex) (Half Duplex)	4.8GB/s 2.4GB/s	4.8GB/s 2.4GB/s	4.8GB/s 2.4GB/s
Bus Type	PCIe x8	PCIe x8	PCIe x8
Auto Negotiation	SAS, SATA II, SATA	SAS, SATA II, SATA	SAS, SATA II, SATA
Connector Type	4 mini SAS (x4) SFF 8087 Internal	2 mini SAS (x4) SFF 8088 External	1 mini SAS (x4) SFF 8088 External, 2 mini SAS (x4) SFF 8087 Internal
Max. Cable Length SAS/SATA	8m/1m	8m/1m	8m/1m
Low-Profile Form Factor	Yes	Yes	Yes
End Devices Supported	128	128	128
Memory (ECC)	512MB	256MB	256MB
Warranty	3 year	3 year	3 year

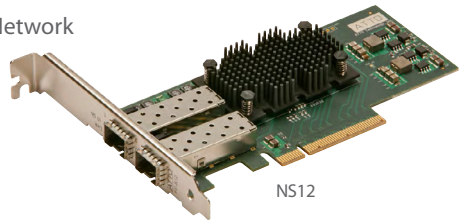
Compatible Software Available - See Page 24.
Compatible Cables Available - See Page 26.

Note: CacheAssure™ is available as a field upgradable unit for existing 6Gb RAID users. Contact your ATTO representative.

10Gb Ethernet NICs

FastFrame™ Network Interface Cards

The FastFrame™ family of 10Gb Ethernet Network Interface Cards (NICs) provide maximum throughput for high bandwidth network connectivity for demanding IT and Media and Entertainment applications. FastFrame NICs simplify networking administration and reduce the total cost of ownership by improving connection bandwidth and eliminating redundant network infrastructure component.



NS12

- Premier connectivity choice for applications requiring low latency, high bandwidth data transfers such as data back-up and restoration, clustered computing, IP content delivery, medical imaging and video streaming.
- Low power consumption reduces overall electric and cooling costs

Supports:
- Windows®, Linux, Mac OS® X and VMware®*
- Data Center Bridging Ethernet
- iSCSI initiators
- Certified with industry leading platforms and applications

Includes:
- Advanced Data Streaming (ADS™) Technology

Complementary Products:
- ATTO premium cables
- ATTO Xtend SAN iSCSI Initiator

* Future support

ATTO FastFrame Network Interface Cards (NICs)

Product Features	NS14	NS12	NS11
Part Number	FFRM-NS14-000	FFRM-NS12-000	FFRM-NS11-000
10GbE Ports	4	2	1
Max. Data Rate	10Gb/s	10Gb/s	10Gb/s
Max. Transfer Rate (Full Duplex) (Half Duplex)	6.4GB/s* 5GB/s	5GB/s 2.5GB/s	2.5GB/s 1.25MB/s
Bus Type	PCIe 2.0 x8	PCIe 2.0 x8	PCIe 2.0 x8
Connector Type	LC Fibre Optic	LC Fibre Optic	LC Fibre Optic
Form Factor	Full Height	Full Height, Low Profile	Full Height, Low Profile
Warranty	3 year	3 year	3 year

Compatible Software Available - See Page 24.
Compatible Cables Available - See Page 26.

* Note: Limited to 6.4GB/s by PCIe 2.0 x8 throughput limit

"We use ATTO because it works, it has consistently given us the best performance on any platform....ATTO Technology is part of our business."

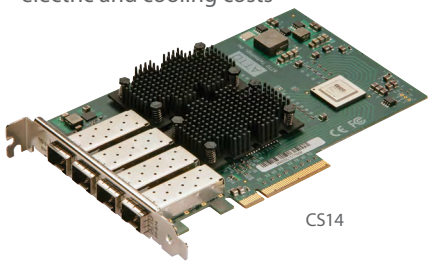
-Tim Jones, Co-founder & CTO, TOLIS Group, Inc.

10Gb Ethernet CNAs

FastFrame™ Converged Network Adapters

FastFrame™ Converged Network Adapters (CNAs) are built on ATTO's time-tested Fibre Channel technology and Intel's Ethernet leadership, providing unified storage connectivity using Fibre Channel over Ethernet (FCoE) for demanding corporate data center applications. FastFrame CNAs provide industry-leading throughput, latency management, minimal CPU utilization, minimal power consumption and the most flexible multi-protocol connectivity for corporate data centers. By supporting 10 Gigabit Ethernet, Fibre Channel over Ethernet and iSCSI protocols, FastFrame adapters offer a comprehensive storage connectivity solution for both the LAN and SAN infrastructure.

- Optimized for extremely low latency and high-bandwidth transfers for both data-intensive and high-transaction rate applications
- Future proof for next generation of servers with industry's first quad port CNA
- Low power consumption reduces overall electric and cooling costs



CS14

Supports:
- Windows®, Linux, Mac OS® X* and VMware®*
- Data Center Bridging Ethernet
- Simultaneous 10GbE, FCoE, iSCSI
- Simultaneous block level and file level I/O
- Certified with industry leading platforms and applications

Includes:
- Advanced Data Streaming (ADS™) Technology
- ATTO Config Tool for customized performance settings

Complementary Products:
- ATTO premium cables

* Future support

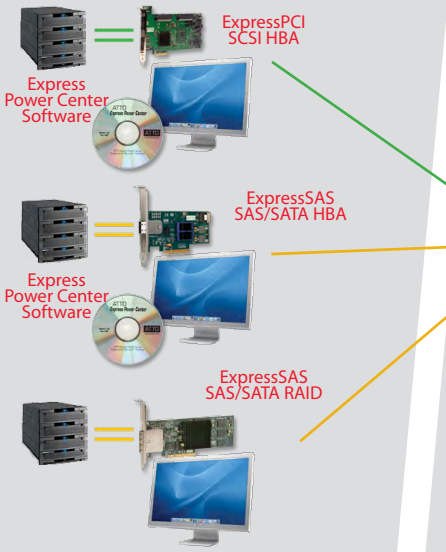
ATTO FastFrame Converged Network Adapters (CNAs)

Product Features	CS14	CS12	CS11
Part Number	FFRM-CS14-000	FFRM-CS12-000	FFRM-CS11-000
10GbE Ports	4	2	1
Max. Data Rate	10Gb/s	10Gb/s	10Gb/s
Max. Transfer Rate (Full Duplex) (Half Duplex)	6.4GB/s* 5GB/s	5GB/s 2.5GB/s	2.5GB/s 1.25MB/s
FCoE Support	Yes	Yes	Yes
Bus Type	PCIe 2.0 x8	PCIe 2.0 x8	PCIe 2.0 x8
Connector Type	Optical LC SFP+	Optical LC SFP+	Optical LC SFP+
Form Factor	Full Height	Full Height, Low Profile	Full Height, Low Profile
Warranty	3 year	3 year	3 year

Compatible Cables Available - See Page 26.

* Note: Limited to 6.4GB/s by PCIe 2.0 x8 throughput limit

ATTO Solutions

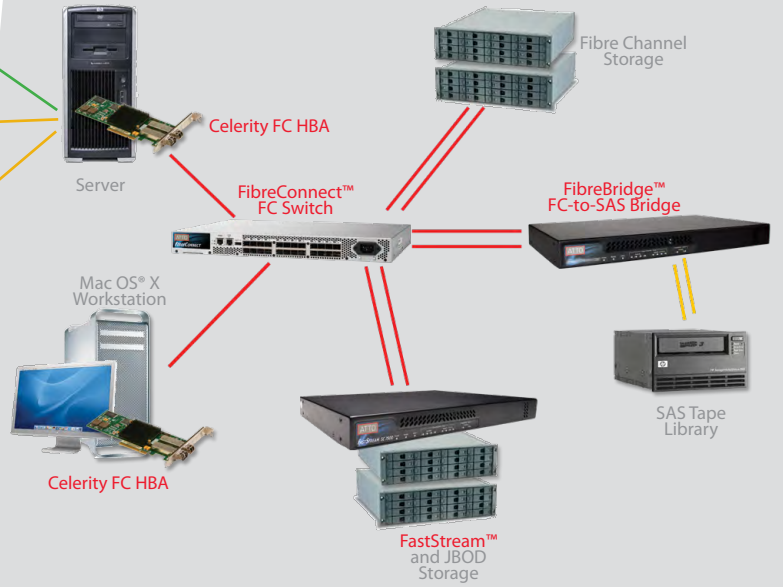


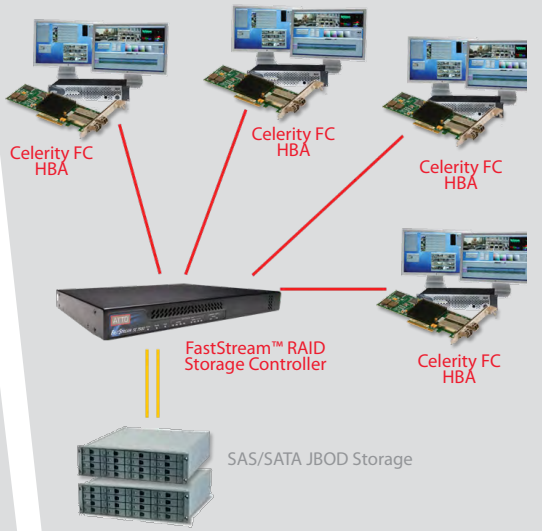
Direct Attached Storage

Achieve maximum performance from SCSI and SAS/SATA storage providing fast access to critical data. Instantly add RAID to SAS or SATA JBOD storage to protect your data without compromising performance.

Fibre Channel SAN

ATTO products provide a reliable foundation for SAN connectivity and work seamlessly together to deliver maximum performance for bandwidth-intensive environments. ATTO components are interoperable with industry leading server, tape and disk storage, workstation, and video hardware and software vendors.



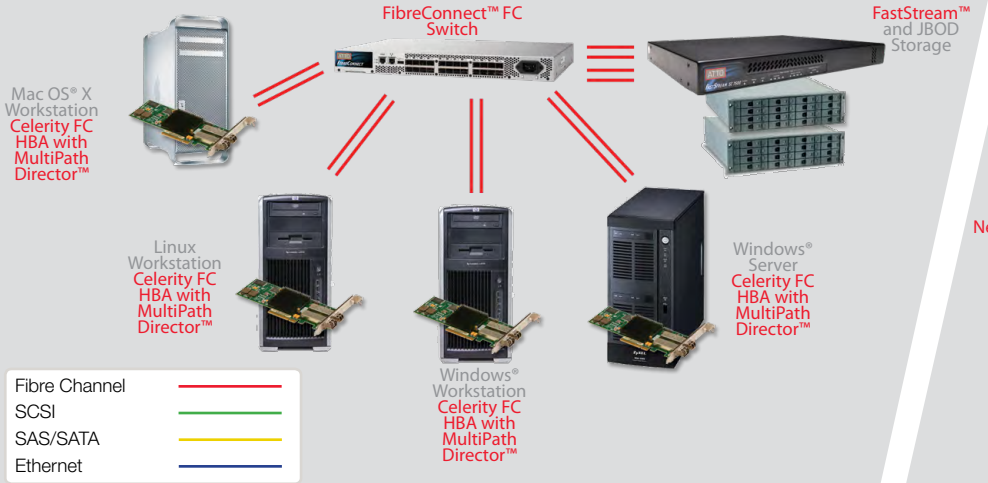


Small Workgroup - Shared Storage

ATTO's FastStream™ allows you to connect up to 4 workstations without the expense of a Fibre Channel switch to create a RAID- protected, high-performance collaborative workflow.

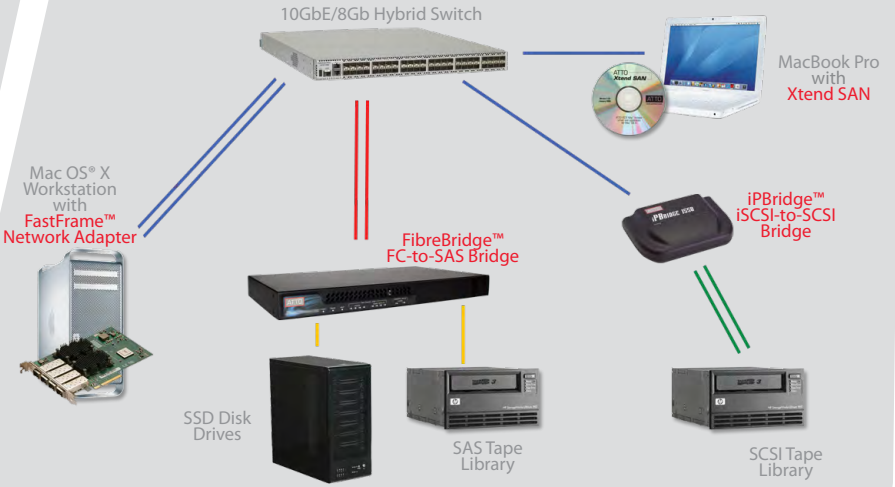
Enterprise Class Storage Connectivity

MultiPath Director™ is a proprietary driver for ATTO's Fibre Channel host bus adapters that provides a completely redundant, high-availability, high-performance enterprise class storage connectivity solution for workstations and server applications.



iSCSI and Fibre Channel Backup

Connect to local or remote storage over standard Ethernet networks or over the Internet for backup, disaster recovery, remote replication to disk or tape devices



RAID Storage Controllers

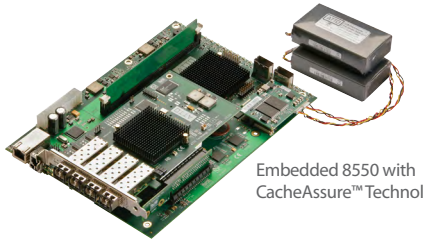
FastStream™ Storage Controllers

ATTO FastStream™ Storage Controllers connect workstations or servers to JBOD(s) instantly adding RAID protection, creating a Storage Area Network without Fibre Channel SAN components. They are engineered for real-time applications requiring managed latency for high-performance collaborative workflows.

- Optimized for extremely low latency and high-bandwidth transfers for data-intensive applications

SC 8250 1U Desktop/Rackmount

- Enable a collaborative workflow – share SAS/SATA JBOD storage with up to four workstations without the need for a Fibre Channel switch
- Easy to setup, manage and maintain without the need for an IT specialist
- Edit up to 30 streams of high definition video
- Additional JBODs may be added as storage needs grow - an alternative to purchasing multiple RAID storage arrays
- Tunable rebuilds allow full application performance for continuous access to storage during degraded or rebuild modes
- Receive event notifications via email for easy monitoring and management



Embedded 8550 with CacheAssure™ Technology

Supports:
- RAID levels 0, 1, 4, 5, 6, 10, 40*, 50*, 60*, JBOD, DVRAID™, N-way mirroring (* requires Express Power Center Software)
- Certified with industry leading platforms and applications

Includes:
- Advanced Data Streaming (ADS™) Technology
- ExpressNAV™ storage manager simplifies management, monitoring and diagnostics
- MultiPath Director™ Support
- DriveAssure™ Technology
- CacheAssure™ Technology (Optional)
- Data Recovery Mode
- Dual Flash ROM
- CLI, Telnet and FTP via Gig-E or RS-232

Complementary Products:
- ATTO Express Power Center RAID software
- ATTO Celerity Fibre Channel HBAs
- ATTO premium cables

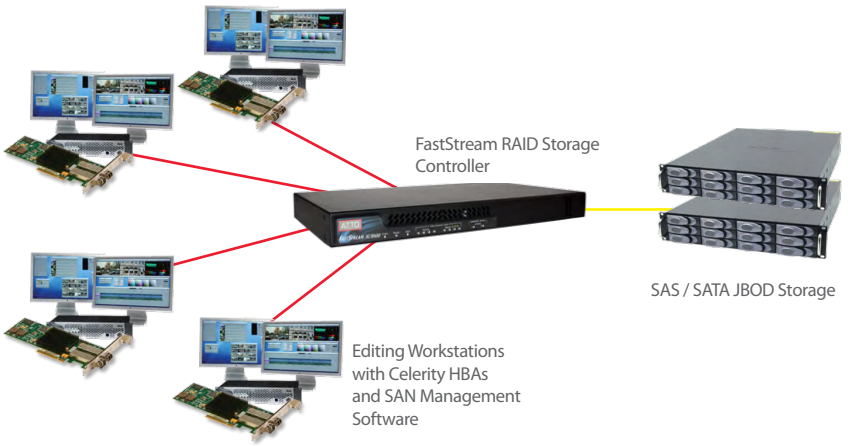
"The FastStream simply delivers a solid-working SAN at an incredibly affordable price point."

-Eli Brown, Santa Fe Productions

FastStream SC RAID CONTROLLER			
Product Features	8550	8250	5550
Part Number	FSSC-8550-DOO	FSSC-8250-DOO	FSSC-5550-DOO
Part Number w/CacheAssure™	FSSC-8550-DCO	FSSC-8250-DCO	FSSC-5550-DCO
Max. Sustained Transfer Rate	1500MB/s	1000MB/s	750MB/s
Input Connectors	4 8Gb FC	16 6Gb SAS	2 4Gb FC
Output Connectors	8 3Gb SAS/SATA	8 3Gb SAS/SATA	8 3Gb SAS/SATA
Devices Supported	128	128	64
10-Bit HD Streams Supported	6	4	3
ECC Cache Memory	1024MB	1024MB	1024MB
Form Factor - Desktop/Rackmount	1U	1U	1U
OEM Embedded Option	MicroATX	MicroATX	MicroATX
Dimensions - MicroATX	178mm x 244mm	178mm x 244mm	178mm x 244mm
Warranty	2 year	2 year	2 year

Compatible Cables & Accessories Available - See Page 26.

Use Case: Cost-effective, extremely efficient small workgroup SAN


FastStream RAID Storage Controller
SAS / SATA JBOD Storage
Editing Workstations with Celerity HBAs and SAN Management Software

FastStream™ RAID Storage Controllers are designed to sit between workstations and low-cost JBOD disk storage, providing users the ability to scale their performance and storage capacity without purchasing a RAID controller every time expansion is needed. The FastStream is well-suited for shared applications in IT and digital media infrastructures including digital film production, post-production, imaging, digital prepress, disk-to-disk backup, audio production and transaction-based environments.

By combining FastStream and SAN management software with low cost JBOD storage, video/audio production studios can create a shared collaborative workgroup environment that enables the rapid development and completion of projects within budget and time constraints.

FC-to-SAS & FC-to-SCSI Bridges

FibreBridge™ Fibre Channel Bridges

6500 1U Desktop/Rackmount

ATTO FibreBridges allow you to integrate Direct Attached SAS/SATA (6500) or SCSI (2400) disk or tape storage into a Fibre Channel SAN. This provides the benefit of increased availability and scalability while allowing the use of direct attached storage on a shared Fibre Channel network.

- Includes patent-pending Drive Map Director™ technology, which provides a logical, static topology and enables login parameters, access controls and security for racks of SAS/SATA storage
- Compatible with all storage devices including JBODs, hard disk drives, SSD, tape libraries, RAID arrays and RAID controllers (6500)
- Compatible with SCSI hard disk drives, tape drives and CD libraries (2400)
- Low power consumption reduces overall electric and cooling costs

Supports:
- Full-duplex Fibre Channel data transfers
- Error recovery
- Certified with industry leading platforms and applications

Includes:
- ExpressNAV™ web-based GUI simplifies management, monitoring and diagnostics
- *i*ntelligent Bridging Architecture™
- SpeedWrite™
- Virtual Drive Response (VDR)
- Drive Map Director™ (6500)
- Pluggable optical SFP/SFP+ connectors included
- RS-232 serial connector for command line interface access
- Ethernet management port for remote monitoring and management

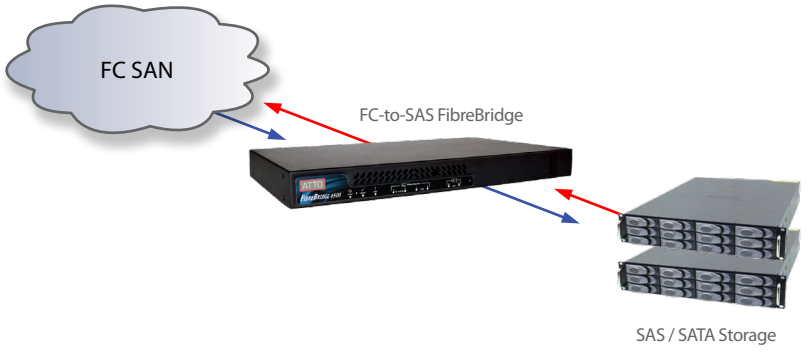
Complementary Products:
- ATTO Celerity Fibre Channel HBAs
- ATTO premium cables

"ATTO bridges give us more than just basic connectivity... advanced troubleshooting and tuning features are invaluable in the field."
- Dave Griffith, Vice President, Operations & Business Development, Qualstar

ATTO FibreBridges™ Fibre Channel Bridges		
Product Features	**6500**	**2400**
Part Number	FCBR-6500-D00	FCBR-2400-DR0
Input Connectors	2 8Gb FC (SFP+)	2 4Gb FC (SFP)
Output Connectors	2 6Gb SAS (QSFP)	2 Ultra320 SCSI
Max. Transfer Rate	1200MB/s	480MB/s
IOPS	50,000	20,000
Devices Supported	255	64
Disk Support	Yes	Yes
Tape Support	1H 2011	Yes
Active Initiators Supported	64	64
Event Log Protection	NVRAM	Battery
Form Factor - Desktop/Rackmount	1U	1U
OEM Embedded Option	MicroATX	4U cPCI
Warranty	2 Year	2 Year

Compatible Cables & Accessories Available - See Page 26.

Use Case: Adding next generation, low cost storage technology to a SAN



With Fibre Channel drives being phased out for SAS, the FibreBridge 6500 will allow you to connect newer, faster and higher capacity SAS or SATA drive technology to your existing 2, 4 or 8Gb/s Fibre Channel SAN. Since SAS/SATA technology does not natively connect to Fibre Channel SANs, a bridge must be used to allow coexistence on the SAN. The FibreBridge 6500 also provides extensive manageability and troubleshooting features not found in direct attached technology.

iSCSI-to-SCSI Bridge

iPBridge™ iSCSI Bridge

The ATTO iPBridge™ offers an affordable solution for connecting SCSI-based Direct Attached Storage over an Ethernet network. It enables users to leverage investments in SCSI storage and Ethernet infrastructure while enabling network access to SCSI storage.

- Compatible with leading SCSI tape and disk storage devices
- Ideal for small and medium-sized enterprises and departmental workgroups - migrate servers from a Direct Attached Storage (DAS) to a Storage Area Network (SAN) environment, enabling highly-effective consolidation and utilization of storage assets
- Near wire speed sustained throughput (99.5 percent)
- Access Control Lists (ACL) limit storage access to defined users and provides peace of mind for network administrators
- Enhanced security with Virtual LAN (VLAN) helps manage large networks

1550D Desktop

Supports:
- Windows®, Linux, Mac® (ATTO Xtend SAN) iSCSI initiator compliance
- Multipathing on iSCSI links
- Error recovery
- Certified with industry leading platforms and applications

Includes:
- ExpressNAV™ web-based GUI simplifies management, monitoring and diagnostics
- *i*ntelligent Bridging Architecture™
- SpeedWrite™
- Virtual Drive Response (VDR)
- 10/100 Ethernet management port for LAN-based monitoring and management

Complementary Products:
- ATTO Xtend SAN iSCSI initiator
- ATTO premium cables

"FireWire based storage was not stable enough and did not provide the robustness needed for orchestral recording or sound dubbing… ATTO's Xtend SAN and iPBridge provided the perfect solution."

-Paul Levy, Advanced Audio Rentals

ATTO iPBridge™ iSCSI Bridge

Product Features	1550
Part Number	IPBR-1550-DRO
Input Connectors	1 1GbE iSCSI
Output Connectors	1 Ultra320 SCSI
Max. Transfer Rate	320MB/s
Active Initiators Supported	50
Form Factor - Embedded	NA
Form Factor - Desktop	Yes
OEM Embedded Option	No
Warranty	2 Year

Compatible Software Available - See Page 25.
Compatible Cables & Accessories Available - See Page 26.

*i*ntelligent Bridging Architecture™

ATTO's intelligent Bridging Architecture technology combines powerful hardware with an efficient software data engine to deliver the flexibility of "anything-to-anything" connectivity. ATTO bridges are engineered to effectively transfer data with minimal overhead from multiple combinations of protocols, custom applications, and specification requirements to match customer configurations and create a seamless integration process.

8Gb Fibre Channel Switches

FibreConnect™ Switches

FibreConnect™ Fibre Channel switches combine high-performance connectivity with exclusive latency management features. This combination ensures smooth and reliable data transfer on a SAN, allowing organizations to grow their storage networks in a non-disruptive manner. FibreConnect switches streamline workflow processes and are ideal for video streaming and backup applications.

FibreConnect™ 8324

- Complete SAN connectivity solution when combined with ATTO Celerity Fibre Channel HBAs
- Industry's only comprehensive solution for Mac® OS
- Guaranteed uninterrupted bandwidth for time-sensitive applications such as video streaming and tape backups - low latency features ensure smooth and reliable data transfer and higher performance
- Allows organizations to start with a flexible, affordable, entry-level SAN and expand at their own pace as required - additional ports can be activated in increments of 8 for a total of up to 24 ports
- Pay-as-you-grow switch for small to mid-range SANs Expansion beyond 24 ports can be achieved by establishing ISLs (Inter Switch Links) through one or more ports
- Low power consumption reduces overall electric and cooling costs

Supports:
- 2, 4, and 8Gb/s devices
- Ports-On-Demand scalability (8 to 16 to 24)
- Certified with industry leading platforms and applications

Includes:
- Pluggable optical LC SFP+
- Web Tools interface simplifies configuration and management
- Mounting hardware

Complementary Products:
- ATTO Celerity Fibre Channel HBAs
- ATTO premium cables

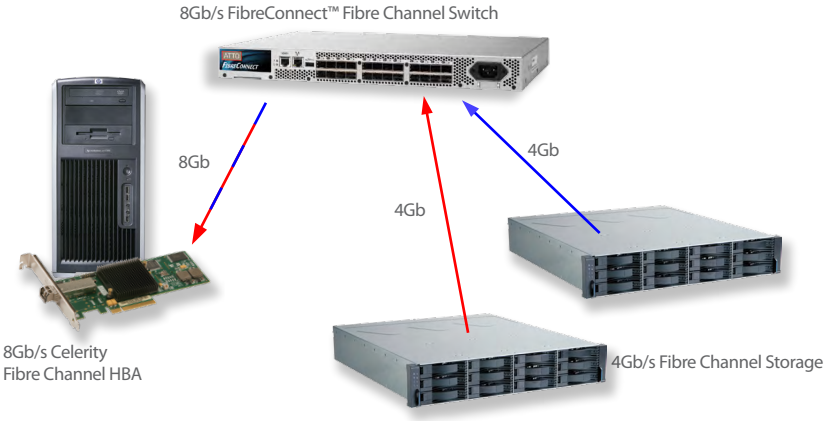
"We found a perfect solution that brings together the IT department and the multimedia department and allows us to exchange information, collaborate, reduces cost and complexity."

-John Call, System Administrator, BYU-Hawaii

ATTO FibreConnect™ Switches			
Product Features	**8324**	**8316**	**8308**
Part Number	FCSW-8324-D00	FCSW-8316-D00	FCSW-8308-D00
Fibre Channel Ports	24	16	8
Max. Data Rate	8Gb/s	8Gb/s	8Gb/s
Aggregate Bandwidth	192Gb/s	128Gb/s	64Gb/s
Auto-Sensing	2, 4, 8Gb/s	2, 4, 8Gb/s	2, 4, 8Gb/s
Form Factor	1U	1U	1U
Low Power <2.5W/Port	Yes	Yes	Yes
Web Tools	Yes	Yes	Yes
Warranty	1 Year	1 Year	1 Year

Compatible Cables & Accessories Available - See Page 26.

Use Case: Improving performance while utilizing existing 4Gb/s Storage



When combining an ATTO 8Gb/s Celerity Fibre Channel host bus adapter, an ATTO 8Gb/s FibreConnect Fibre Channel switch and 4Gb/s Fibre Channel storage, you can obtain the full performance of an 8Gb/s HBA (800MB/s) when aggregating the performance over two 4Gb/s storage devices. ATTO offers media and entertainment and general IT users a completely scalable end-to-end SAN connectivity solution to deliver high-performance and reliable storage solutions.

Express Power Center Software

Acceleration Software for Windows® and Mac®

Computer applications such as digital video/audio creation and editing require the fastest data transfer speeds possible. ATTO's acceleration software, when used with ATTO HBAs, provides the highest performance from any attached SCSI, SAS, SATA and Fibre Channel storage. And, the easy-to-use wizard-style interface provides step-by-step instruction to configure and optimize storage.

Express Power Center Software feature:

- Powerful acceleration software that works tightly with the OS to accelerate storage transfer and reduce latency
- Software RAID level 0 support for all ATTO HBAs
- User selectable interleave sizes
- Support for media with up to a 4KB sector size

For Windows®

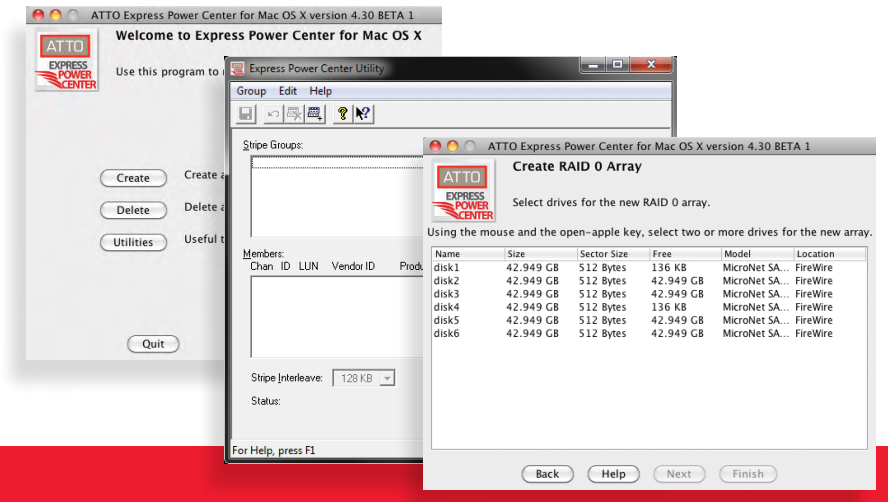
- Exclusive Smooth Data Optimization (SDO™) for increased productivity
- Seamless portability of stripe groups between systems
- Support for Windows 7, Vista, XP, Server 2008, 2003, 2000

For Mac OS® X

- Benchmark the drive's peak, average and minimum read transfer rates
- Initialize disks and delete volumes
- Journaling support
- Create multiple volumes of various sizes simultaneously with support of up to 8 Exabytes
- Support for Mac OS X

Part Number:

- EPCI-PWRC-000

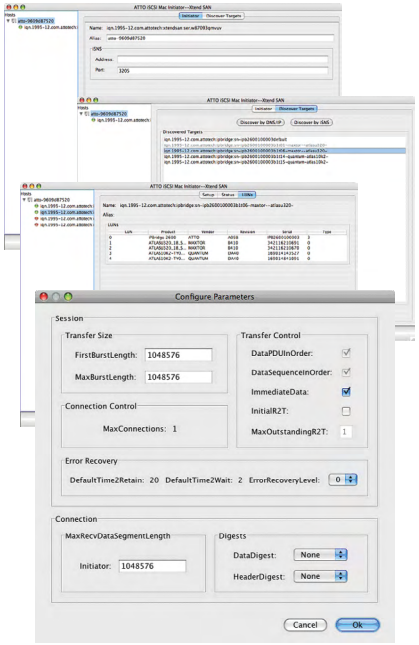

ATTO Express Power Center for Mac OS X version 4.30 BETA 1
Welcome to Express Power Center for Mac OS X
Use this program to
Create
Delete
Utilities
Quit
Express Power Center Utility
Group Edit Help
Stripe Groups:
Members:
Chan ID LUN Vendor ID
Stripe Interleave:
128 KB
Status:
For Help, press F1
ATTO Express Power Center for Mac OS X version 4.30 BETA 1
Create RAID 0 Array
Select drives for the new RAID 0 array.
Using the mouse and the open-apple key, select two or more drives for the new array.
Name Size Sector Size Free Model Location
disk1 42.949 GB 512 Bytes 136 KB MicroNet SA... FireWire
disk2 42.949 GB 512 Bytes 42.949 GB MicroNet SA... FireWire
disk3 42.949 GB 512 Bytes 42.949 GB MicroNet SA... FireWire
disk4 42.949 GB 512 Bytes 136 KB MicroNet SA... FireWire
disk5 42.949 GB 512 Bytes 42.949 GB MicroNet SA... FireWire
disk6 42.949 GB 512 Bytes 42.949 GB MicroNet SA... FireWire
Back
Help
Next
Finish

"We found that Xtend SAN was a hassle-free initiator that just worked and was easy to implement and integrate."

-Ed Casaccia, Director of Product Marketing for Servers and Storage, Grass Valley

Xtend SAN Software

iSCSI Initiator Application for Mac OS® X



Xtend SAN iSCSI Initiator for Mac® software makes Direct Attached storage available to multiple servers across long distances using Ethernet technology built into workstations. It enables users to take advantage of networked storage while avoiding the cost and complexity of a Fibre Channel SAN. With iSCSI, small businesses and workgroups can take full advantage of a SAN environment, even with limited IT budgets and resources.

- Lessens the effort associated with the implementation of an iSCSI SAN by providing ease-of-use setup and management features
- Provides high-performance for demanding applications
- Compatible with 32/64 bit Mac OS® X
- EMC E-Lab Tested

Supports:

- Up to 1024 targets
- Header/Data digest with class 1 error recovery
- SNS client login redirect function
- CHAP iSCSI security
- iSNS client
- Certified with industry leading platforms and applications

Includes:

- Easy-to-use GUI simplifies set-up, configuration and management
- Advanced CLI for addressing iSCSI targets
- Voluming Licensing: 1, 5, 10, 25, and 100

Complementary Products:

- ATTO iPBridge 1550D

Part Number:

- INIT-MAC0-001

ATTO Cables and Accessories

Premium Connectivity Components

For over 22 years, ATTO has conducted in-depth examinations of noise, interference, cable lengths and their effects on connectivity solutions. ATTO premium cables are specifically designed to optimize connections between high-performance storage and workstations. ATTO cables are recommended for use with the ATTO line of HBAs, RAID Controllers and Bridges to obtain high levels of performance and signal quality.

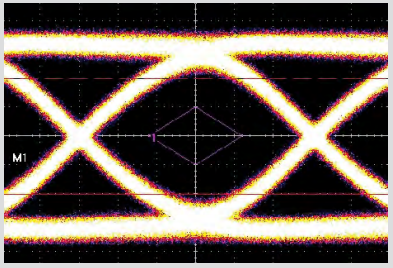
By utilizing high-quality shielding, equipment-specific cable lengths and extensive pull testing to verify connection integrity, these premium cables are the best connectivity solution for every ATTO product.

SAS Cable, External SFF-8088 to SFF-8470

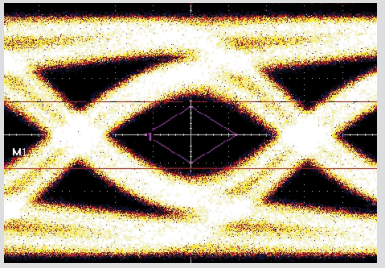
Signal Integrity

ATTO Technology has been manufacturing storage connectivity products for over 20 years, becoming experts in the art of developing clean board design for smooth data streaming. ATTO engineers pay close attention to signal integrity with a focus on minimizing jitter, crosstalk, reflections, and power supply noise, resulting in the cleanest signals in the industry.

This is one of the reasons why ATTO is the most trusted storage connectivity solution provider in the Media and Entertainment industry for high speed streaming applications. Signal quality is the best indicator of performance and could be the difference between completing projects on time or missing deadlines. ATTO products can be relied upon for uninterrupted, reliable, and high-performance data transfers.



ATTO Cable Signal:
Clean eye pattern = tighter signal strength
Smooth and reliable data transfers



Substandard Cable Signal:
Distorted eye pattern = weaker signal integrity
Possible data loss, errors

"When anyone has connectivity issues we just tell them to put in an ATTO card to solve their challenge"

-David Fontaine, General Manager, Cap Ciné

SAS/ SATA	External SFF-8088 to SFF-8088	External SFF-8088 to SFF-8470	External SFF-8436 to SFF-8088	Internal SFF-8087 to (4) x1 SATA	Internal SFF-8087 to SFF-8087
Length	1 & 3 meters[1]	1 & 3 meters[1]	1 & 3 meters[1]	.5 meters	.5 meters
For use with	ESAS-H6FO ESAS-R680 ESAS-H680 ESAS-R644 ESAS-H644 ESAS-R380 ESAS-H380 ESAS-R348 FSSC-8550 FSSC-8250 FSSC-5550	ESAS-H6FO ESAS-R680 ESAS-H680 ESAS-R644 ESAS-H644 ESAS-R380 ESAS-H380 ESAS-R348 FSSC-8550 FSSC-8250 FSSC-5550	FCBR-6500 ESAS-H6FO ESAS-H680 ESAS-H644 ESAS-H380 ESAS-R680 ESAS-R644 ESAS-R380 ESAS-R348 FSSC-8550 FSSC-8250 FSSC-5550	ESAS-H60F ESAS-H608 ESAS-H644 ESAS-H30F ESAS-R60F ESAS-R608 ESAS-R644 ESAS-R30F ESAS-R348 FSSC-8550* FSSC-8250* FSSC-5550* *Embedded Models Only	ESAS-H60F ESAS-H608 ESAS-H644 ESAS-H30F ESAS-R60F ESAS-R608 ESAS-R644 ESAS-R30F ESAS-R348 FSSC-8550* FSSC-8250* FSSC-5550* *Embedded Models Only
Part Number	CBL-8088-EX1 CBL-8088-EX3	CBL-8470-EX1 CBL-8470-EX3	CBL-QSFP-EP1 CBL-QSFP-EP3	CBL-SATA-INT	CBL-8087-INT

[1] SATA limited to 1 meter, use with SAS targets only

Fibre Channel	LC to LC 50 µm OM 2	LC to LC 50 µm OM 2	8Gb/s SFP+ LC SW Optical	4Gb/s SFP, LC SW Optical
Length	3 meters	10 meters	Standard	Standard
For use with	CTFC-84EN CTFC-82EN CTFC-81EN CTFC-44ES CTFC-42ES CTFC-41ES CTFC-41XS FSSC-8550 FSSC-5550 FF-CS14 FF-CS12 FF-CS11 FF-NS14 FF-NS12 FF-NS11 FCBR-2400 FC 8308/8316/8324	CTFC-84EN CTFC-82EN CTFC-81EN CTFC-44ES CTFC-42ES CTFC-41ES CTFC-41XS FSSC-8550 FSSC-5550 FF-CS14 FF-CS12 FF-CS11 FF-NS14 FF-NS12 FF-NS11 FCBR-2400 FC 8308/8316/8324	CTFC-84EN CTFC-82EN CTFC-81EN FSSC-8550 FCBR-6500	CTFC-44ES CTFC-42ES CTFC-41ES FSSC-5550 CTFC-41XS FCBR-2400
Part Number	CBL-LCLC-R03	CBL-LCLC-R10	SFP8-0000-R00	SFP4-0000-R00

SCSI	External VHDCI to VHDCI	External VHDCI to HD68	External HD68 to HD68	Terminator, LVD, VHDCI, Active
Length	3 meters	1 meter	1 meter	Standard
For use with	EPCI-UL5D EPCI-UL5DLP EPCI-UL4D FCBR-2400	EPCI-UL5D EPCI-UL5DLP EPCI-UL4D FCBR-2400 IPBR-1550	IPBR-1550	EPCI-UL5D EPCI-UL5DLP EPCI-UL4D FCBR-2400 IPBR-1550
Part Number	CBL-VHDC-R03	CBL-V68E-R3X	CBL-HD68-R01	TERM-V68E-R02

Resources

How to Buy, Interoperability, Media Center, Support

How to Buy

Channel Sales +1.716.691.1999 extension 240
International Sales +1.716.691.1999 extension 239
OEM Sales +1.716.691.1999 extension 241
VAR + System Integrators - www.attotech.com/howtobuy
Direct Sales - www.attostore.com

Interoperability

ATTO tests our products with third-party vendor products to ensure compatibility.
Visit www.attotech.com/support/interoperability for compatibility listings.

Media Center

ATTO's Media Center contains the latest press releases, videos, success stories, case studies, images, and more.
Visit www.attotech.com/corporate/media-center

Support

ATTO ensures our customers receive the finest in technical support for the lifetime of the product. We make it our priority to understand our customer's workflows and their specific needs to provide the best technical assistance in the industry.
Contact ATTO Technical Support at +716.691.1999 extension 242 or visit our website to submit inquires www.attotech.com/support/techsuptmail.html

RoHS COMPLIANT 2002/95/EC

Made in USA

"The ATTO partnership is a good marriage - By working with ATTO during our new product development we recognized a 25% improvement in getting products released - generating revenue quicker."

- Sadry Tavana, Vice President of Hardware Engineering & Operations Manager, SeaChange International

Index

Corporate Overview & Product Portfolio ..... p. 1
Proprietary Technologies ..... p. 2
Management Tools ..... p. 4
SCSI Host Bus Adapters ..... p. 5
Fibre Channel Host Bus Adapters ..... p. 6
SAS/SATA Host Bus Adapters ..... p. 8
SAS/SATA RAID Adapters ..... p. 10
Network Interface Cards ..... p. 12
Converged Network Adapters ..... p. 13
ATTO Solutions ..... p. 14
RAID Storage Controllers ..... p. 16
Fibre Channel Bridges ..... p. 18
iSCSI Bridges ..... p. 20
Fibre Channel Switches ..... p. 22
Software ..... p. 24
Cables and Accessories ..... p. 26
Resources ..... p. 28

ATTO Technology, Inc., and its products are registered trademarks or trademarks of ATTO Technology, Inc. in the United States and other countries. All other trademarks used herein are the property of their respective owners. © 2011. ATTO Technology, Inc. All rights reserved.
Specifications are subject to change

ATTO Technology, Inc.

155 CrossPoint Parkway
Amherst, NY 14068
p. +1.716.691.1999
f. +1.716.691.9353

www.attotech.com